

Use this checklist to install and test Osicom's Router Plus T1 Drop & Insert CSU. For reference and additional information, see the [Routermate Router Plus T1 Drop & Insert CSU Installation and Operation](#) manual. If you have any questions during installation, contact Osicom Technologies' Customer Service at (800) 359-2273.

Default configuration settings - The default settings allow you to get started quickly and easily with minimal configuration.

NOTE

If your application matches the default settings of IP routing over an unnumbered PPP link, then you only need to configure the CSU and assign DS0s and configure the IP address and subnet mask on the LAN port. See steps 4 & 7.

Verify that the following parameters suit your application. Contact your carrier and network administrator or Internet services provider.

The router's default settings are:

LAN interface:

Protocol: *Ethernet* (fixed)

Port 0 (LAN):

IP Address: 192.0.2.1
Subnet Mask: 255.255.255.0
IP Routing: *Enabled*
IPX Routing: *Disabled*
Bridging: *Disabled*
Frame Type: *TYPE II*

WAN Interface:

Protocol: *PPP* (Point-to-Point)

Port 1 (WAN):

IP Routing: *Enabled*
Mode: *Unnumbered*
IPX Routing: *Disabled*
Bridging: *Disabled*
IP Address: 192.0.3.1 (Numbered Mode)
Subnet Mask: 255.255.255.0
DLCI: 25

The T1 CSU's default settings are:

T1 Format: *Auto Detect*
T1 Coding: *Auto Detect*
T1 Timing: *Repeater*
ESF Data Link: *AT&T TR-54016*
NCTE: *Disabled*
NCTE format: *ESF*
NCTE coding: *B8ZS*
DS0s: *WAN 1*

Perform all the steps in the procedure if your application requires settings that are different from the defaults.

☐ **STEP 1: Installation Checklist**

1. Prepare the site, including provision for a dedicated power outlet. Locate the unit in close proximity to the T1 line, PBX and LAN hub.
2. Obtain the following items:
 - ANSI terminal with a straight-through RS-232 cable.
 - a 10BaseT LAN cable.
 - PBX cable

☐ **STEP 2: Power Up**

1. Apply power.
2. The red **SYS** LED blinks momentarily, then goes out.

☐ **STEP 3: Connect Terminal**

1. Use a straight-through RS-232 cable to connect the terminal to the CONSOLE port on the front of the router. Power-on the terminal and configure the terminal as follows:
 - Rate: 9600 bps
 - Mode: full duplex
 - Character: 8 bits
 - Parity: none
 - Stop bits: 1
 - CR = CR

The Terminal Selection screen appears. If the Terminal Selection screen does not appear, type [CTRL-N].

2. Type the letter for the type of terminal that is connected to the router; you are prompted for a password.
3. Type [CR], the default password, to access the management screens. The Main Menu is displayed.

☐ **STEP 4:** *Configure the CSU and assign DS0s to the WAN 1 or NCTE interface*

1. Access the T1 CSU Configuration screen and configure the following parameters (see defaults on page 1):

- NI Format
- NI Coding
- Timing

Auto Detect should not be used on both ends of a point-to-point circuit.

2. Set NCTE to *Enabled*.
3. Match the following with the PBX configuration:
 - NCTE Format
 - NCTE Coding

4. Access the Interface Configuration screen and configure the Data Rate for *N x 56k* (default) or *N x 64k*.

WARNING

Using *N x 64* will cause line density errors unless the line is provisioned for B8ZS or the *Invert Data* option is used.

5. Access the Bandwidth Allocation screen and assign DS0s to the WAN and NCTE interfaces.
6. Assign the DS0s to *Not Used* or *WAN 1* (default) or *NCTE*. DS0s configured as NCTE are actually configured as either *NCTE Data* or *NCTE A=x B=x* for voice channels using trunk processing.

Select as follows to fit the application:

Application	Selection
E&M Busy	A=1 B=1
E&M Idle	A=0 B=0
GS and LS FXS Idle	A=0 B=1
GS FXO Busy No TG and Ringing	A=1 B=0
GS FXO Busy Tip Ground	A=0 B=1
GS FXO Busy TG and Ringing	A=0 B=0
GS FXO Idle	A=1 B=1
GS FXS Busy Ring Ground	A=0 B=0
GS FXS Busy Loop Closure	A=1 B=1
LS FXO Busy	A=0 B=0
LS FXO Idle	A=0 B=1
PLAR Busy	A=0 B=0
PLAR Idle	A=1 B=1

WARNING

Voice channels using robbed bit signaling will not operate properly on channels configured for *NCTE Data*.

☐ **STEP 5:** *Configure Protocol for the WAN*

1. Access the WAN 1 Configuration screen.
2. Select the Protocol: *PPP*, *Frame Relay - Annex D*, or *Frame Relay - No LMI*. Default is PPP.

☐ **STEP 6:** *Enable/Disable IP, IPX, Bridging for LAN*

Access the Port 0 Configuration screen and set IP Routing, IPX Routing, and Bridging to *Enabled* or *Disabled*.

☐ **STEP 7:** *Configure IP, IPX Options for LAN*

If IP Routing is *Enabled*:

1. Access the Port 0 IP Routing Options screen.
2. Configure the Address.
3. Configure the Subnet Mask.
4. Configure Frame Type to match the type used on the LAN. The default is TYPE II, which is almost always used.

If IPX Routing is *Enabled*:

1. Access the Port 0 IPX Routing Options screen.
2. Configure the IPX Network Number for the LAN.
3. Configure the Frame Type to match the type used on the LAN.

☐ **STEP 8:** *Enable/Disable IP, IPX, Bridging for WAN*

For Point-to-Point applications, configure the following for Port 1 only.

For Frame Relay applications, configure the following for each port 1-14 as required.

1. Access the Port Configuration screen.
2. Set IP Routing, IPX Routing, and Bridging to *Enabled* or *Disabled*.
3. *Frame Relay only:* Configure the DLCI for this port.
The number configured here is the DLCI used to reach the remote site.
4. *Frame Relay only:* verify Encapsulation is set for RFC1490 (default).

☐ **STEP 9: Configure IP, IPX Options for WAN**

For Point-to-Point applications, configure the following for Port 1.

For Frame Relay applications, configure the following for each port for which a DLCI was configured in the previous step.

If IP Routing is Enabled:

1. Access the IP Routing Options screen for the individual port.
2. Configure the IP Address and Subnet Mask. No entries are required for Unnumbered Mode.

For Frame Relay applications:

If the remote router requires it, enable Inverse ARP on the port IP Routing Options screen. The Router Plus T1 D&I does not require Inverse ARP (default is disabled).

If IPX Routing is Enabled:

1. Access the IPX Routing Options screen for the individual port.
2. Configure the IPX Network Number for the WAN. No entry is required for Unnumbered Mode.
3. Enable or Disable IPXWAN to match the router on the other end of the WAN link. Support for IPXWAN is only provided to allow the Router Plus T1 D&I to be compatible with Novell routers. It is not required to route IPX and should be disabled unless it is required. The default is disabled.

For Frame Relay applications:

If the remote router requires it, enable Inverse ARP on the port IPX Routing Options screen. The Router Plus T1 D&I does not require Inverse ARP (default is disabled).

☐ **STEP 10: Attach LAN and WAN Cables**

1. Use the WAN cable included with the unit to connect the WAN 1 interface to the T1 line.
2. Use a customer-supplied 10BaseT drop cable to connect the 10BaseT interface to the LAN.
3. Connect the PBX cable to the NCTE interface, using the DB-15 to RJ-48 adapter if necessary.

☐ **STEP 11: Test CSU**

After all the cables are connected and you have completed the initial software configuration, the Router Plus T1 Drop & Insert CSU will communicate with the T1 network and PBX.

1. Verify that the front panel ALM (alarm) LED is OFF and the W1 LED is ON.
2. If the ALM LED is ON, refer to the T1 CSU Status and Test screen (Chapter 4) and related sections in the manual.

☐ **STEP 12: Save Configuration to Flash**

When your configuration has been implemented and checked out to be satisfactory, access the Main Menu and select **Save to Flash**; a prompt will appear to confirm your selection.

If the new configuration is not satisfactory, power cycle the router (off-on) before saving it to restore the original configuration.

WARNING

If the unit is power cycled before the configuration is saved to flash, the original configuration will be restored.